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| 10/723,848 | 11/26/2003 | Chandra Warriar | 99-814-A | 9686 |

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| EXAMINER |
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PATEL, JAY P

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| ART UNIT | PAPER NUMBER |
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2619

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12/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/723,848

Applicant(s)

WARRIER ET AL.

Examiner

Jay P. Patel

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/01/2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16, 17, 21, 22, 24-26 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 and 17 is/are allowed.
- 6) ☒ Claim(s) 21, 24, 26, 30 and 32 is/are rejected.
- 7) ☒ Claim(s) 22, 25 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21, 24 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiller et al. (US Patent 6445922 B1) in view of Leung (US Patent 6501746 B1), herein referred to as Leung 1 and further in view of Leung (US Patent 7149229 B1), herein referred to as Leung 2.

In regards to claim 21, Hiller illustrates in figure 5, a process of transmitting a data packet from a home agent to a mobile node. Specifically, the foreign agent uses the mobile node's home IP address and the Home agent's IP address to access a visitor list table and find a network address identifier (NAI) (a mobility agent using a combination of the assigned home IP address of a given mobile node and a home agent IP address to determine a unique communication link address corresponding with the given mobile node). Furthermore, the NAI is a unique mobile node identifier that can distinguish mobile nodes that have identical home addresses (see column 2, lines 30-42) (having overlapping IP addresses). In further regards, Hiller shows in prior art figure 1 two private IP Networks with different home agents (a plurality of home agents).

In further regards to claim 21, Hiller shows in figures 3a and 3b, steps for registration and PPP link establishment. IWF 8 (a foreign agent), adds the home address of a mobile node and a network address identifier (NAI) to the link identifier

field in the mobility binding table (using a home IP address from a packet to identify a unique point-to-point link for the given mobile node). After the PPP link is established and the mobile user is authenticated, the mobile node sends a registration request over the PPP link (column 6, lines 21-26) (routing the packet using the PPP link).

Furthermore, since the PPP link is used by the mobile node to send packets, it can also be used by the mobile node to send the packets to the mobile node.

In further regards to claim 21, Hiller fails to teach, address pools for IP addresses, where each pool is associated with a unique Home Agent IP address and assigning a home IP address to a given mobile node from one of the multiple pools. In figure 6, Leung 1 teaches the above-mentioned limitation. At step 608, if a mobile node doesn't have an IP address in the mobility-binding table of the Home agent, an IP address is obtained from an address pool associated with the mobile node's home network.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the IP address assignment method taught by Leung with the process taught by Hiller to match the IP address and the home agent IP address to find the unique link that terminates at a mobile node. The motivation to combine would have been to use a unique mobile node identifier in addition to the assigned IP address to uniquely identify a roaming mobile node.

In further regards to claim 21, neither Hiller nor Leung 1 teaches, using the home agent address in a table along with the home IP address. Leung 2 however, shows the above-mentioned limitation in figure 1. For example, it is stated that foreign agent 10

updates an internal "visitor table" which specifies the mobile node address, home agent address, etc. (see column 2, lines 13-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the home agent address as taught by Leung 2 in addition to the home IP address of the mobile node to identify the PPP link as taught by Hiller in addition to the IP address assignment method taught by Leung. The motivation to do so would be to allow for a more specific and robust identification of a PPP link.

In regards to claim 24, Hiller illustrates in figure 5, a process of transmitting a data packet from a home agent to a mobile node. Specifically, the foreign agent uses the mobile node's home IP address and the Home agent's IP address to access a visitor list table and find a network address identifier (NAI) (a mobility agent using a combination of the assigned home IP address of a given mobile node and a home agent IP address to determine a unique communication link address corresponding with the given mobile node). Furthermore, the NAI is a unique mobile node identifier that can distinguish mobile nodes that have identical home addresses (see column 2, lines 30-42) (having overlapping IP addresses). In further regards, Hiller shows in prior art figure 1 two private IP Networks with different home agents (a plurality of home agents). Furthermore, since figure 5 is a process, a processing device and a storing device to store the instructions carried out by the processing device must be present.

In further regards to claim 24, Hiller shows in figures 3a and 3b, steps for registration and PPP link establishment. IWF 8 (a foreign agent), adds the home

address of a mobile node and a network address identifier (NAI) to the link identifier field in the mobility binding table (using a home IP address from a packet to identify a unique point-to-point link for the given mobile node). After the PPP link is established and the mobile user is authenticated, the mobile node sends a registration request over the PPP link (column 6, lines 21-26) (routing the packet using the PPP link).

Furthermore, since the PPP link is used by the mobile node to send packets, it can also be used by the mobile node to send the packets to the mobile node.

In further regards to claim 24, Hiller fails to teach, address pools for IP addresses, where each pool is associated with a unique Home Agent IP address and assigning a home IP address to a given mobile node from one of the multiple pools. In figure 6, Leung 1 teaches the above-mentioned limitation. At step 608, if a mobile node doesn't have an IP address in the mobility-binding table of the Home agent, an IP address is obtained from an address pool associated with the mobile node's home network.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the IP address assignment method taught by Leung with the process taught by Hiller to match the IP address and the home agent IP address to find the unique link that terminates at a mobile node. The motivation to combine would have been to use a unique mobile node identifier in addition to the assigned IP address to uniquely identify a roaming mobile node.

In further regards to claim 24, neither Hiller nor Leung 1 teaches, using the home agent address in a table along with the home IP address. Leung 2 however, shows the

above-mentioned limitation in figure 1. For example, it is stated that foreign agent 10 updates an internal "visitor table" which specifies the mobile node address, home agent address, etc. (see column 2, lines 13-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the home agent address as taught by Leung 2 in addition to the home IP address of the mobile node to identify the PPP link as taught by Hiller in addition to the IP address assignment method taught by Leung. The motivation to do so would be to allow for a more specific and robust identification of a PPP link.

In regards to claim 30, Hiller illustrates in figure 5, a process of transmitting a data packet from a home agent to a mobile node. Specifically, the foreign agent uses the mobile node's home IP address and the Home agent's IP address to access a visitor list table and find a network address identifier (NAI) (a mobility agent using a combination of the assigned home IP address of a given mobile node and a home agent IP address to determine a unique communication link address corresponding with the given mobile node). Furthermore, the NAI is a unique mobile node identifier that can distinguish mobile nodes that have identical home addresses (see column 2, lines 30-42) (having overlapping IP addresses). In further regards, Hiller shows in prior art figure 1 two private IP Networks with different home agents (a plurality of home agents). Furthermore, since figure 5 is a process, Hiller also reads on machine executable instructions that carry out the processing of the packets associated with the given mobile node.

In further regards to claim 30, Hiller shows in figures 3a and 3b, steps for registration and PPP link establishment. IWF 8 (a foreign agent), adds the home address of a mobile node and a network address identifier (NAI) to the link identifier field in the mobility binding table (using a home IP address from a packet to identify a unique point-to-point link for the given mobile node). After the PPP link is established and the mobile user is authenticated, the mobile node sends a registration request over the PPP link (column 6, lines 21-26) (routing the packet using the PPP link). Furthermore, since the PPP link is used by the mobile node to send packets, it can also be used by the mobile node to send the packets to the mobile node.

In further regards to claim 30, Hiller fails to teach, address pools for IP addresses, where each pool is associated with a unique Home Agent IP address and assigning a home IP address to a given mobile node from one of the multiple pools. In figure 6, Leung 1 teaches the above-mentioned limitation. At step 608, if a mobile node doesn't have an IP address in the mobility-binding table of the Home agent, an IP address is obtained from an address pool associated with the mobile node's home network.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the IP address assignment method taught by Leung with the process taught by Hiller to match the IP address and the home agent IP address to find the unique link that terminates at a mobile node. The motivation to combine would have been to use a unique mobile node identifier in addition to the assigned IP address to uniquely identify a roaming mobile node.

In further regards to claim 30, neither Hiller nor Leung 1 teaches, using the home agent address in a table along with the home IP address. Leung 2 however, shows the above-mentioned limitation in figure 1. For example, it is stated that foreign agent 10 updates an internal "visitor table" which specifies the mobile node address, home agent address, etc. (see column 2, lines 13-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the home agent address as taught by Leung 2 in addition to the home IP address of the mobile node to identify the PPP link as taught by Hiller in addition to the IP address assignment method taught by Leung. The motivation to do so would be to allow for a more specific and robust identification of a PPP link.

3. Claims 26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiller et al. (US Patent 6445922 B1) in view of Leung (US Patent 6501746 B1), herein referred to as Leung 1 and further in view of Leung (US Patent 7149229 B1), herein referred to as Leung 2 further in regards to Malkin et al. (US Patent 6061650).

In regards to claims 26 and 32, Hiller in combination with the Leung references teaches all the limitations of parent claims 24 and 30. Neither Hiller nor the Leung references, teach the foreign agent being a remote access server. Malkin however, teaches the above-mentioned limitation where the RAS serves as a foreign agent (see column 6, lines 12-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a RAS serve as a foreign agent as taught by

Malkin and incorporate it as the foreign agent in the systems taught by Hiller and the Leung reference. The motivation to do so would be to provide mobility functions for a remote node.

Allowable Subject Matter

4. Claims 16-17 are allowed.
5. In regards to claim 16, the cited prior art fails to teach either individually or in combination, in a foreign agent using a combination of a home agent address and a home IP address of a mobile node to identify a unique PPP link in the event when a data packet destined to the mobile node has an identical home IP address to at least one other mobile node.

Conclusion

6. Claims 22, 25 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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jpp 12/12/07
Jay P. Patel
Examiner
Art Unit 2619

EDAN .ORGAD
SUPERVISORY PATENT EXAMINER

Two handwritten signatures are present below the title. The first signature, on the left, appears to be 'jpp' and the second, on the right, appears to be 'Edan .Orgad'.